**Algebra I Supplemental Statistics Project**

**Assigned:\_\_\_\_\_\_\_\_\_\_\_**

**Due:\_\_\_\_\_\_\_\_**

This is to be done almost entirely outside of class. Some class time will be given to get support and ask questions. You are to choose one of the following survey options below, and/or do the attached supplemental work.

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|  | **Option #1:** Survey one hundred 8th-graders. Ask them for and record their shoe size. Make sure to get a good mix of people (boys, girls, tall, short, big, small, etc.). Find the range, mean, median, and mode of the data. Make a frequency chart and histogram of the data. The product may be processed on computer or drawn neatly by hand. |
|  | **Option #2:** Survey one hundred 8th-graders. Ask them for and record their height. Convert the height to inches. Make sure to get a good mix of people (boys, girls, tall, short, big, small, etc.). Find the range, mean, median, and mode of the data. Break the data into intervals of two to three inches (i.e. 61”-63”, 64”-66”, etc). Make a frequency chart and histogram of the data. The product may be processed on computer or drawn neatly by hand. |
| C:\Users\krberry\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\AKUSMK70\MCj04040090000[1].wmf | **Option #3:** Roll a number cube 100 times. Make a frequency chart and histogram of the data. The product may be processed on computer or drawn neatly by hand. You will need to do the supplemental exercises. |

MY DATA:

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Frequency:

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| Interval |  |  |  |  |  |  |  |  |  |  |
| Number |  |  |  |  |  |  |  |  |  |  |

Example frequency charts and histograms:

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| |  |  | | --- | --- | | Age | Freq | | 10 | 0 | | 11 | 9 | | 12 | 56 | | 13 | 75 | | 14 | 73 | | 15 | 12 | | 16 | 1 | |  |
| |  |  | | --- | --- | | High Temp (F) | Freq | | Below 20 | 7 | | 20-29 | 17 | | 30-39 | 30 | | 40-49 | 44 | | 50-59 | 66 | | 60-69 | 59 | | 70-79 | 64 | | 80-89 | 53 | | 90-99 | 22 | | 100+ | 3 | |  |

**Supplemental exercises for dice-rollers:** <http://www.mathgoodies.com/lessons/vol8/practice_vol8.html>

**Twelve students were given a math test, and the times (in minutes) to complete it are listed below. Find the range, mean, median, and mode of these times.**  
10,  9,  12,  11,  8,  15,  9,  7,  8,  6,  12,  10

**A relay race was completed by 7 participants, and their race times are given below (in seconds). What is the range, mean, median, and mode of race times?**  
13.2,  14.5,  12.9,  13.9,  15.6,  14.1,  12.3

**The average annual wind speed for the 5 windiest cities in the U.S. is given below in miles per hour. What is the range, mean, median, and mode of these annual wind speeds?**  
15.4,  14.0,  13.5,  13.1,  12.9

**What is the range, mean, median, and mode age of the 7 children whose ages are listed below?**  
11,  10,  13,  11,  12,  16,  14

**Given below are the daily high temperatures for one winter week in Albany, New York. What is the range, mean, median, and mode of these temperatures?**  
39,  42,  34,  37,  39,  44,  41

Supplemental problems for all: <http://www.regentsprep.org/Regents/math/algtrig/ATS5/PCPrac.htm>

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| |  |  |  | | --- | --- | --- | | **1.** | A teacher is making a multiple choice quiz.  She wants to give each student the same questions, but have each student's questions appear in a different order.  If there are twenty-seven students in the class, what is the least number of questions the quiz must contain? | http://www.regentsprep.org/Regents/math/algtrig/ATS5/testtakers.jpg | |
| |  |  |  | | --- | --- | --- | | **2.** | A coach must choose five starters from a team of 12 players.  How many different ways can the coach choose the starters? | http://www.regentsprep.org/Regents/math/algtrig/ATS5/coach.gif | |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **3.** | The local Family Restaurant has a daily breakfast special in which the customer may choose one item from each of the following groups:   |  |  |  | | --- | --- | --- | | **Breakfast Sandwich** | **Accompaniments** | **Juice** | | egg and ham egg and bacon egg and cheese | breakfast potatoes apple slices fresh fruit cup pastry | orange cranberry tomato apple grape |   a.)  How many different breakfast specials are possible? | |
| |  |  |  | | --- | --- | --- | | **4.** | In how many ways can 3 different vases be arranged on a tray? | http://www.regentsprep.org/Regents/math/algtrig/ATS5/3vases.gif | |

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| |  |  |  | | --- | --- | --- | | **5.** | There are fourteen juniors and twenty-three seniors in the Service Club.  The club is to send four representatives to the State Conference.  a.)  How many different ways are there to select a group of four students to attend the conference?  b.)  If the members of the club decide to send two juniors and two seniors, how many different groupings are possible? | http://www.regentsprep.org/Regents/math/algtrig/ATS5/ServiceClub.jpg | |

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| RUBRIC | 5,4 | 3,2,1 | 0 |
| Sample Size | Student gets 100 data points from a representative sample of 8th- graders / Student rolls number cube 100 times. | Student has some amount less than 100 data points. | Student has no data. |
| Freq. Chart | Student creates reasonable intervals and fills out frequency chart accurately. | Intervals are too big or too small | Frequency chart not completed |
| Histogram | Student creates visually appealing histogram that matches the data in the frequency chart. It is an example of the student’s finest effort. | Histogram is plain, distorted, or does not match the data in the frequency chart, or is in any other way an underachievement. | Graph not complete. |
| Timeliness | Turned in on or before due date. |  | Not turned in on or before due date. |